

IV. AMENDMENTS TO THE DRAWINGS

--- Replacement and annotated mark-up drawing sheets for amended figures showing the amended figures, if any, are attached at the Appendix hereto. Each figure is in compliance with 37 C.F.R. § 1.84. An explanation of the changes, if any, is set forth below in this “Amendments to the Drawings” section. Replacement drawing sheets are identified in the top margin as “Replacement Sheet.” Any replacement drawing sheet including amended figures includes all of the figures appearing on the immediate prior version of the sheet. Any annotated drawing sheets, if the same are required by the Examiner, are identified in the top margin as “Annotated Marked-Up Drawings.” Any deleted figure is noted by an instruction to delete the figure. Any corresponding amendment to the specification necessary to be made because of an amendment to the drawings in this section is made in the corresponding “Amendments to Specification” section.

- THE DRAWINGS OF THE PATENT IS HEREBY AMENDED AS SET FORTH BELOW:
 - *No Amendment Made to the Drawings*
 - *Attachments: None*

V. REMARKS/ARGUMENTS

- STATUS OF THE CLAIMS

Claims 1 and 4 - 15 are pending in this application.

- OBJECTIONS

- OBJECTIONS TO CLAIMS AND SPECIFICATION

- Examiner's Stance

The Examiner has objected to claims 11 through 13 for informalities.

- Applicants' Response

The Applicant has amended claims 11 through 13 to remedy the informalities identified by the Examiner.

- REJECTIONS

- REJECTION UNDER 35 U.S.C. §112, 2nd Paragraph

- Examiner's Stance

The Examiner has rejected claims 1, and 4 through 15 under 35 U.S.C. §112, 2nd Paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that the Applicant regards as his invention. Specifically, with respect to independent claims 1 and 11, the Examiner alleges that the claim language fails to disclose how the optical data deformation is associated with the transient optical state change material. With respect to claims 4 and 12, the Examiner alleges that the claim language fails to disclose how the transient optical state change material is associated with the optical data deformation in a manner to change an optical read between two states.

- Applicants' Response

The Applicant has amended claims 1 and 11 to clarify how the optical data deformation is associated with the transient optical state change material. The basis for these amendments is found in the instant specification paragraph [0037]. The Applicant refers the Examiner to instant specification paragraph [0009] which discloses materials that may be suitable for application as optical state change security material. The Applicant further asserts that the grounds for rejection of claims 4 through 10, and 12 through 15 which depend from claims 1 and 11 are thereby also remedied.

- REJECTIONS UNDER 35 U.S.C. §103(a)
- Examiner's Stance

The Examiner has rejected claim 1 and 4 – 10 as being unpatentable under 35 U.S.C. §103(a) over Mennie *et al.* (U.S. Patent No. 5,992,601; hereafter referred to as Mennie) in view of Baldi. (U.S. Patent No. 6,547,151; hereafter referred to as Baldi). The Examiner alleges that Mennie discloses all of the limitations of instant claims 1 and 4 through 10 with the exception of the teaching of an integrated circuit. The Examiner further contends, within the "*Response to Arguments*" section, that Mennie teaches a method for authenticating an item having a transient optical state change material as disclosed in col. 45, lines 30 to 46 of the Mennie reference. The Examiner further alleges that it would have been obvious to modify the teachings of Mennie to include those of Baldi, which discloses an IC carrier comprising an integrated circuit.

- Applicants' Response

Applicants respectfully traverse the rejections of claims 1 and 4 - 10 under 35 U.S.C. §103(a).

The Applicant asserts that the Examiner cited prior art references do not provide sufficient grounds for establishment of a *prima facie* case of obviousness, as set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or non-obviousness.

The Applicant calls the Examiner's attention to MPEP 2143.03, which states that to establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.

The instant application comprises two independent claims from which all of the remaining dependent claims depend. Instant independent claim 1 requires, in part, the following elements:

"[a] substrate with a semiconductor integrated circuit and one or more optical data deformations incorporated therein that are representative of digital data; and

optical state change security material formed as a layer over said optical data deformations." [instant claim 1]

Instant independent claim 11 requires, in part, the following elements:

"(a) detecting on said item, or a substrate associated with said item, an optical state change security material in the form of a layer over an optical data deformation;

(b) determining the locations of said optical state change material on a reference authentic item or substrate associated with said reference authentic item; and

(c) declaring said item as authentic when said transient optical state change security material is found at said locations." [instant claim 11]

Each of the Applicant's claims require the use of an optical state change security material configured as a layer over optical data deformations. The instant specification defines an optical state change security material as an inorganic or organic material used to authenticate, identify or protect an optical medium by changing optical state from a first optical state to a second optical state [0022]. An optical medium is defined, in paragraph [0019] of the instant specification, as a medium of any geometric shape that is capable of storing digital data that may be read by an optical reader. A data deformation is

defined, in paragraph [0018] of the instant specification, as a structural perturbation on or in an item that represents stored data and can be read by an optical reader.

The Examiner has cited Mennie as anticipating the Applicant's claims. Mennie discloses an apparatus and method for discriminating among a plurality of document types such as currency bills of different denominations and/or from different countries and authenticating the same. Specifically, the Examiner cited the following portion of the Mennie specification as disclosing a method of authenticating an item having a transient optical state change material:

" At step 540, the bill is scanned for the presence, location, and fluorescent color of a security thread. The presence of a security thread may be detected as described above in connection with FIG. 26. If a thread is not present as determined at step 542, an appropriate suspect code may be issued at step 544. The considerations discussed above in connection with FIG. 26 concerning genuine bills which do not contain security threads are applicable here as well. If at step 542 it is determined that a security thread is present, the detected thread location is compared with master thread locations at step 546. If the location of the detected thread does not match a master thread location, an appropriate suspect code may be issued at step 548. If the location of the detected thread does match a master thread location, the scanned bill can be preliminary indicated to have the denomination associated with the matching thread location at step 550. Next at step 552 it is determined whether the color of any fluorescent light emitted by the detected security thread matches the master thread fluorescent color associated with a genuine bill of the denomination indicated at step 550."[col. 45; lines 30 - 46]

The Mennie reference discloses currency or document authentication by means of detection of a security thread at any of a selection of prescribed locations on the currency or document. Unlike the Applicant's claims, there are no teachings, or suggestions, anywhere within the Mennie reference that the currency or document comprises optical data deformations incorporated therein that are representative of digital data. The Mennie reference does not disclose, teach or claim the use of an optical state change security material configured as a layer over optical data deformations.

The Examiner has cited Baldi, when taken in combination with Mennie, as establishing a *prima facie* case of obviousness. The Applicant respectfully disagrees. The Baldi reference discloses a currency note including, as an identifying and/or authenticating element, an integrated circuit applied to or embedded in the note. The purpose of the integrated circuit, as disclosed in Baldi, is to provide an authentication function. In the case of the Applicant's claims, the integrated circuit is not operable as an authenticating element. Rather, it is the optical state change material in combination with the optical data deformations which implement the authentication function.

Thus the combination of Mennie and Baldi, does not anticipate the all of the limitations claimed by the Applicant.

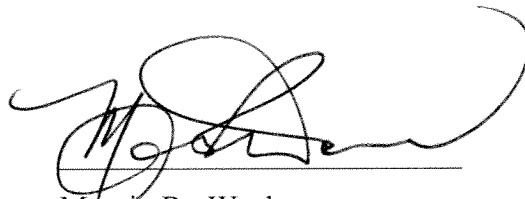
For, at least, the reasons set forth above, Applicants assert that claims 1, and 4 - 10 are patentable and not obvious of the art of record. The Applicant respectfully requests that the Examiner rescind the rejections of claims 1 and 4 through 10 under 35 U.S.C. §103(a).

CONCLUSION TO REMARKS

Applicants assert that this response is fully responsive to the Examiner's office action dated October 9, 2007. Applicants respectfully seek early allowance of the pending claims.

Respectfully Submitted,

Date: September 3, 2008

A handwritten signature in black ink, appearing to read 'M. Wachs', is written over a horizontal line.

Marvin R. Wachs,
Reg. No.: 58,227
KELLEY DRYE & WARREN LLP
400 Atlantic Street
Stamford, CT 06901
Phone 203-351-8072
Fax: 203-327-2669
E-mail: mwachs@kelleydrye.com

VI. APPENDIX

- *No appendix is intended to be attached*